

R E M A R K S

Reconsideration of this application, as amended, is respectfully requested.

THE DRAWINGS

Figs. 6, 9 and 10 have been amended as indicated in red on the accompanying copies thereof to make the flowcharts shown therein accord with the disclosure in the specification at page 21, lines 4-8. (See also page 28, line 27 to page 29, line 1, and page 31, lines 16-17.)

Submitted herewith are corrected sheets of formal drawing which incorporate the amendments and a Letter to the Official Draftsperson requesting approval thereof.

THE CLAIMS

Claims 1-10 have been amended to make some minor grammatical improvements and to correct some minor antecedent basis problems so as to put the claims in better form for issuance in a U.S. patent. In particular, it is noted that claims 1, 5 and 6 have been amended to clarify the signal to be stored, and that claim 10 has been amended to clarify the target picked-up image to be subjected to brightness determination.

In addition, new claims 11 and 12 have been added to recite the feature of a shutter button, as supported by the disclosure in the specification at, for example, page 13, line 26 to page 15, line 20.

No new matter has been added to the claims, and it is respectfully requested that the amendments to the claims be approved and entered.

THE PRIOR ART REJECTIONS

Claims 1-2 and 5-9 were rejected under 35 USC 102 as being anticipated by USP 6,426,775 ("Kurokawa"), claims 3-4 were rejected under 35 USC 103 as being obvious in view of the combination of Kurokawa and JP 07-015655 ("Kitajima et al"), and claim 10 was rejected under 35 USC 103 as being obvious in view of Kurokawa. These rejections, however, are respectfully traversed.

According to the present invention as recited in each of amended independent claims 1, 5 and 6, an image pickup device is provided which comprises a determining section for making a determination of whether or not an electric signal produced by an image pickup unit has a proper brightness, wherein if a determination result of the determining section is "proper," the electric signal used for the determination is stored in a memory.

As recognized by the Examiner, Kurokawa discloses an image pickup apparatus which makes a determination as to "darkness". It is respectfully submitted, however, that Kurokawa does not disclose, teach or suggest the storage of a signal as the basis for the determination.

With respect to the present invention as recited in amended independent claim 10, an image pickup method is provided wherein if it is determined that a brightness state of an image picked up by a first image pickup operation is "at or above a predetermined value," the first picked-up image is stored. If the result of the determination is "less than a predetermined value", a second light emission value of the light emitter is determined, a second light emission of the light emitter is carried out based on the second light emission value, a second image pickup is carried out in timing with the second light emission, and the second picked-up image is stored. Thus, according to the method of the present invention as recited in amended independent claim 10, the first picked-up image is used to determine the brightness.

As recognized by the Examiner, Kurokawa discloses making a determination as to the brightness of a picked-up image. It is again respectfully submitted, however, that Kurokawa does not disclose, teach or suggest the storage of a signal as the basis for the determination.

Kitajima et al, moreover, has merely been cited for the disclosure therein of a control part which prohibits storing picture data in a memory. And it is respectfully submitted that this reference also fails to disclose, teach or suggest the storage of a signal as the basis for determining a proper brightness as according to the present invention as recited in each of amended independent claims 1, 5, 6 and 10.

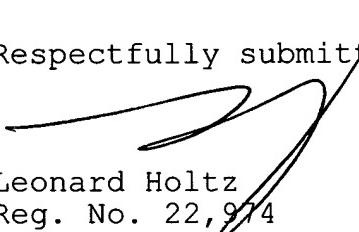
In view of the foregoing, it is respectfully submitted that the present invention as recited in each of amended independent claims 1, 5, 6 and 10, as well as all of the claims respectively depending therefrom, patentably distinguishes over the cited references, taken singly or in combination, under 35 USC 102 as well as under 35 USC 103.

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Entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,


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VERSION WITH MARKINGS TO SHOW CHANGES MADE

Claims 1-10 have been amended as follows:

1. (Amended) An image pickup device equipped with a light emitter, comprising:

an image pickup unit [for picking] which picks up an image and [converting] converts the picked-up image into an electric signal;

5 a memory [for storing data electrically converted] adapted to store the electric signal produced by the image pickup unit;

10 a determining section [for making] which makes a determination of whether or not the electric signal [converted] produced by the image pickup unit has a proper brightness [or not];

15 a controller [for making] which controls the memory to store the electric signal [converted by the image pickup unit] used by the determining section for making the determination [to be stored in the memory] if a result of the determination of the determining section is "proper"; and

a light emitter [for being] which is controlled by the controller to emit light in timing with an image pickup timing of the image pickup device.

2. (Amended) An image pickup device according to claim 1, wherein when [a] the result of the determination of the determining section is "not proper", the controller obtains a

light quantity of the light emitter which is assumed to be "proper" based on the electric signal [converted] produced by the 5 image pickup unit, dispatches an image pickup instruction again to the image pickup unit, and at the same time, controls the light emitter to emit light in timing with the image pickup timing.

3. (Amended) An image pickup device according to claim 1, wherein the controller prohibits [a] storing in the memory of the electric signal [converted] produced by the image pickup unit [which has been determined as] when the result of the 5 determination of the determining section is "not proper" [, in the memory].

4. (Amended) An image pickup device according to claim 3, wherein when an electric signal [converted] produced by the image pickup unit in timing with a first light emission of the light emitter is "not proper", the controller [makes] controls the 5 memory to store electric signals converted by the image pickup unit in timing with second and subsequent light emissions of the light emitter.

5. (Amended) An image pickup device equipped with a strobe, comprising:

an image pickup unit [which is a so-called charge coupled device (CCD), for picking] which picks up an image of an object and [converting this] converts the image into an electric signal;

5 a memory [for storing data electrically converted] adapted to store the electric signal produced by the image pickup unit;

a determining section in a CPU [for making] which makes a determination of whether or not the electric signal [converted] 10 produced by the image pickup unit is a proper image [or not];

a stroboscopic light emitter which emits light of a desired intensity in synchronism with an operation of the image pickup unit; and

15 a controller in the CPU [for making] which controls the memory to store the electric signal [converted by the image pickup unit] used by the determining section for the determination [to be stored in the memory] if a result of the determination of the determining section is "proper", [and, if a result of the determination of the determining section is "not proper", for obtaining a light quantity of a light emitter which is assumed to be "proper" based on the electric signal converted by the image pickup unit and for dispatching an image pickup instruction again to the image pickup unit, and at the same time, 20 for controlling the light emitter to emit light in timing with the image pickup timing] and which computes an intensity of the light emitted from the stroboscopic light emitter if the result of the determination of the determining section is "not proper, 25 wherein the intensity of light is based on the electric signal

used by the determination section for the determination and is
estimated to enable the result of the determination to become
"proper", and wherein the controller again instructs the image
pickup unit to pick up an image and also instructs the
stroboscopic light emitter to emit light in synchronism with the
image pickup operation of the image pickup unit. [and]

[a stroboscopic light emitter for being controlled by the
controller to emit light of a desired light-emission quantity in
timing with an image pickup timing of the image pickup device.]

6. (Amended) An image pickup device equipped with a light
emitter, comprising:

an image pickup unit [for picking] which picks up an image
and [converting] converts the picked-up image into an electric
5 signal;

a memory [for storing data electrically converted] adapted
to store the electric signal produced by the image pickup unit;

a determining section [for making] which makes a
determination of whether or not the electric signal [converted]
10 produced by the image pickup unit has a proper brightness [or
not];

a controller [for making] which controls the memory to store
the electric signal [converted by the image pickup unit to be
stored in the memory] used by the determining section for the
15 determination if a result of the determination of the determining
section is "proper";

a light emitter [for being] which is controlled by the controller to emit light [in timing with an image pickup timing of] in synchronism with an image pickup operation of the image 20 pickup [device] unit; and

an auto-focussing unit for driving an optical system to focus on an object.

7. (Amended) An image pickup device according to claim 6, wherein when [a] the result of the determination of the determining section is "not proper", the controller obtains a light quantity of the light emitter which is assumed to be "proper" based on the electric signal [converted] produced by the 5 image pickup unit, dispatches an image pickup instruction again to the image pickup unit, and at the same time, controls the light emitter to emit light in timing with the image pickup timing.

8. (Amended) An image pickup device according to claim 7, wherein the controller obtains a light emission quantity of the light emitter by referring to information of a distance to [an image pickup] the object obtained by an auto-focussing operation 5 of the auto-focussing unit.

9. (Amended) An image pickup device according to claim 7, wherein the controller [makes] controls the light emitter to

carry out a first light emission in a light emission quantity of the light emitter set by a user [manual] operation.

10. (Amended) An image pickup method using a light emitter, comprising [the steps of]:

carrying out a first light emission of a light emitter, and carrying out a first image pickup in timing with [this] the first 5 light emission;

determining a brightness of a state [of a picked-up image obtained] an image picked up by the first image pickup operation;

storing [the content of] the first picked-up image if a result of the [decision] determination is "at or above a 10 predetermined value";

determining a second light emission value of the light emitter if [a] the result of the determination is "less than a predetermined value";

carrying out a second light emission of the light emitter 15 based on the second light emission value, and carrying out a second image pickup in timing with [this] the second light emission; and

storing [the content of] the second picked-up image.